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EXAMINER				
LYNCH, PATRICK D				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/556,138

Applicant(s)

KOJIMA ET AL.

Examiner

Patrick D. Lynch

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-10 and 16-26 is/are rejected.
- 7) ☒ Claim(s) 6, 7 and 11-15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S508)
- Paper No(s)/Mail Date 11/09/2005, 01/23/2006, and 05/31/2007.
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application.
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Regarding claim 4, the claim recites the limitation that the fixing member is fitted slidably over the central shaft portion at the hollow cylindrical portion on an innermost peripheral side among the plurality of hollow cylindrical portions. It is unclear from the wording of this claim what the "innermost peripheral side" pertains to. Does this correspond the innermost peripheral side of the innermost hollow cylindrical portion of the fixing member or is it the innermost peripheral side of fixing member as a whole. Clarification of the claim language is necessary. For the purpose of this examination the examiner will presume that the claim refers to the relationship that the innermost cylindrical member of the fixing member is slidably received over the shaft portion of the rotator.
4. Further regarding claims 4 and 5, the claims recite limitations involving "the hollow cylindrical portions" without specify which group of hollow cylindrical portions are being referred to (i.e. the hollow cylindrical portions of the fixing member, or those of the rotator).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-5, 9, 10 and 16-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al. (US 2002/0109386) in view of Ohshima (US 5,165,507).
7. Regarding claim 1 Kojima et al. discloses a damper (1, See Fig. 37) for an automobile seat (331) comprising:
- a. A fixing member (351, 304) adapted to be fixed to a chassis on which an automobile seat is rotatably installed (Paragraph [0137], lines 11-13, "...the collar portion 351 is secured by means of screws pins or the like to the bracket 354 installed and secured to the chassis 337..." Fig. 34 illustrates the rotation of the auto seat with respect to the chassis 337.);
 - b. A rotator (307) which is rotatable relative to said fixing member and forms a gap (306) with said fixing member;
 - c. A silicone-based unvulcanized rubber disposed in the gap (Paragraph [0134], 20-21, "...so that the silicone-based unvulcanized rubber 4 can be reliably and easily filled into the gap 306...");
8. Kojima et al. does not expressly disclose a one-way clutch means which, in the rotation of the automobile seat in one direction, is adapted to transmit the rotation

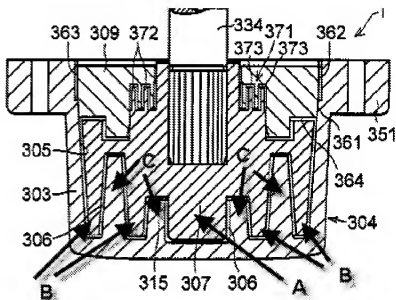
in the one direction to said rotator, and which, in the rotation of the automobile seat in another direction, is adapted to inhibit the transmission of the rotation in the other direction to said rotator.

9. Ohshima, however, discloses a damper (Fig. 1) including a one way clutch (7) which, during rotation of a shaft (3) in one direction, is adapted to transmit the rotation in the one direction to a rotator (4), and which in the rotation of the shaft in another direction is adapted to inhibit the transmission of the rotation in the other direction to the rotator (Col. 5, line 44-Col. 6, line 5). Such a clutch means allows the flapdoor of Ohshima to easily open without resistance from the damper, yet close without slamming the door.
10. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the vehicle seat damper of Kojima et al. by including a one-way spring clutch, similar to that of Ohshima, which in the rotation of the automobile seat in one direction, is adapted to transmit the rotation in the one direction to said rotator, and which, in the rotation of the automobile seat in another direction, is adapted to inhibit the transmission of the rotation in the other direction to said rotator. Such a modification would be beneficial since it would allow the vehicle seat to be rotated forward (designated by arrow R1 in Fig. 34 of Kojima et al.) against the force of gravity but without resistance from the damper, while also providing resistance to the rotation back to a seated position (designated by arrow R2 in Fig. 34 of Kojima et al.) to avoid slamming of the seat against the vehicle chassis under the force of gravity.

11. Regarding claim 3, Kojima et al. discloses that the fixing member is adapted to be fixed to the chasis on which the automobile is installed rotatably in back and forth directions (Paragraph [0137], lines 11-13, "...the collar portion 351 is secured by means of screws pins or the like to the bracket 354 installed and secured to the chassis 337..." Fig. 34 illustrates the rotation of the auto seat with respect to the chassis 337.), said one-way clutch means is adapted to transmit the backward rotation to the rotator so as to cause said rotator to rotate, whereas in the forward rotation of the automobile seat, said one way clutch means is adapted to inhibit the transmission of the forward rotation to the rotator (In the modification above regarding claim 1, it was explained that it would be obvious to engage the rotator in the backward, i.e. in the direction of arrow R2 in Fig. 34 of Kojima et al., so as to prevent slamming of the seat against the chassis under the force of gravity, in view of the disclosure of Ohshima.).
12. Regarding claim 4, Kojima et al. discloses that the rotator has a central shaft portion (element A in Reproduced Fig. 37 below) and a plurality of hollow cylindrical portions (elements B in Reproduced Fig. 37 below) disposed concentrically with the central shaft portion, and said fixing member has a plurality of hollow cylindrical portions (elements C in Reproduced Fig. 37 below) disposed concentrically with the central shaft portion and, at the hollow cylindrical portion on an innermost peripheral side among the plurality of hollow cylindrical portions, is fitted slidably over the central shaft portion to rotatably support said rotator (As is clear in Fig. 37, the central shaft portion of rotator 307 has, slidably fitted about its

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periphery, the innermost hollow cylindrical portion of the fixing member 304.), and wherein the plurality of hollow cylindrical portions of said rotator and the plurality of hollow cylindrical portions of said fixing member are overlappingly fitted to each other in a radial direction with the gap in which said silicone-based unvulcanized rubber is disposed (as is clear from Fig. 37).



Reproduced Fig. 37

13. Regarding claim 5, Kojima et al. discloses that the rotator has a closure portion formed integrally with respective one axial end portions of the plural hollow cylindrical portions (the closure is considered the portion which connects all of the hollow cylindrical portions of the rotator.), and a recess (into which shaft 334 extends) or a projection provided in or on an axial end face of said closure portion, and said fixing member has a closure portion formed integrally with one axial end portions of the hollow cylindrical portions (the closure portion being the very end of the fixing member 304 which forms the bottom most edge of the damper as

displayed in Fig. 37 and from which all hollow cylindrical portions of the fixing member extend.), and a mounting portion (351) formed integrally with said closure portion and adapted to be fixed to the chassis (As discussed above in the rejection of claim 1.).

14. Regarding claim 9, Kojima et al. discloses that the fixing member includes a housing member (304, 303) and a cover member (309) which is threadably secured or fittingly secured to said housing member (via mating threads 362 and 363), wherein said housing member includes an outer hollow cylindrical portion (which surrounds the entire rotator 307), an inner hollow cylindrical portion (one of the portions labeled C in the above displayed Reproduced Figure 37) disposed concentrically with the outer hollow cylindrical portion on an inner side of the outer hollow cylindrical portion (as is clear from the Figure 37), and a closure portion formed integrally on the outer hollow cylindrical portion and the inner hollow cylindrical portion so as to close one axial end portions of the outer hollow cylindrical portion and the inner hollow cylindrical portion (The bottom most axial end as represented in Fig. 37 is considered the closure portion.), wherein said cover member is threadably secured or fittingly secured to another axial end portion of the outer hollow cylindrical portion (As is clear from Fig. 37, the threading 362 and 362 is opposite of what is considered the closure member), wherein said rotator includes an outer peripheral hollow cylindrical portion disposed concentrically with the outer hollow cylindrical portion on an inner side of the outer hollow cylindrical portion and on an outer side of the inner hollow cylindrical

portion, an inner peripheral hollow cylindrical portion connected to the outer peripheral hollow cylindrical portion and disposed concentrically with the outer peripheral hollow cylindrical portion on an inner side of the inner hollow cylindrical portion (The rotator 307 has two different hollow cylindrical portions, one of which may be considered the outer peripheral portion and the other of which may be considered the inner peripheral hollow cylindrical portion. This is clear from Fig. 37.), and wherein the outer peripheral hollow cylindrical portion and at least one of the outer hollow cylindrical portion and the inner hollow cylindrical portion are overlappingly fitted to each other in the radial direction with the gap in which said silicone-based unvulcanized rubber is disposed (See Fig. 37).

15. Regarding claim 10, Kojima et al. does not expressly disclose that there is an intermediate hollow cylindrical portion between the outer peripheral and inner peripheral hollow cylindrical portions. However, the examiner takes official notice that it is well known in the art of rotational dampers to utilize various numbers of overlapping hollow cylindrical portions to achieve the various viscous shearing characteristics for the desired applications. Thus it is considered merely a matter of design choice to include more or less hollow cylindrical portions. As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the damper of Kojima et al. to include an intermediate hollow cylindrical portion between the inner and outer peripheral hollow cylindrical portions of the rotator such that it is overlappingly fitted to the

inner hollow cylindrical portion in the radial direction with a gap in which said silicone based unvulcanized rubber is disposed.

16. Regarding claim 16, Kojima et al. discloses that the silicone-based unvulcanized rubber has a degree of plasticity of 30 to 420 (Paragraph [0012], lines 1-3, "In the invention, the silicone based unvulcanized rubber is sufficient if it has a degree of plasticity of not less than 30 and not more than 420.")
17. Regarding claim 17, Kojima et al. discloses that the silicone-based unvulcanized rubber has a degree of plasticity of 60 to 320 (See claim 4 of Kojima et al.).
18. Regarding claim 18, Kojima et al. discloses that the silicone-based unvulcanized rubber has a degree of plasticity of 160 to 320 (See claim 5 of Kojima et al.).
19. Claims 16-18 are further obvious since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Further, the plasticity of the damping fluid is merely a matter of design choice in determining what is an appropriate value for the application.
20. Regarding claims 19-21 Kojima et al. as modified by Ohshima discloses the claimed invention except for citing the desired Mooney viscosity ranges set forth in claims 19-21. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a silicone-based unvulcanized rubber of the desired Mooney viscosity range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Further, the

viscosity of the damping fluid is merely a matter of design choice in determining what is an appropriate value for the application.

21. Regarding claim 22, Kojima et al. as modified by Ohshima discloses the claimed invention except for explicitly stating that the silicone-based unvulcanized rubber is constituted by a silicone modified ethylene propylene rubber. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use such a damping fluid, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.
22. Regarding claim 23, Kojima et al. as modified by Ohshima discloses an automobile seat mechanism (See Fig. 29 of Kojima et al.) comprising said damper for an automobile seat according to claim 1 (See rejection of claim 1 as being anticipated by Kojima et al. as modified by Ohshima), a seat (331 of Kojima et al.) provided rotatably with respect to the automobile chassis (as illustrated by Fig. 34 of Kojima et al.), and a backrest (338) provided rotatably with respect to said seat (as illustrated by Fig. 33 of Kojima et al.).
23. Regarding claim 24, Kojima et al. discloses that the backrest is provided rotatably in a backward direction with respect to said seat (See Fig. 3, after being folded forward parallel with the seat portion 331, the backrest 338 may be rotated in a backward direction, as illustrated by arrow D in Fig. 33, with respect to the seat 331.).

24. Regarding claim 25, Kojima et al. discloses that the backrest is provided rotably in a forward direction with respect to said seat (as illustrated by arrow C in Fig. 33).
25. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al. (US 2002/0109386) in view of Ohshima (US 5,165,507), as applied to claim 1, and further in view of Honda et al. (US 2003/0184129).
26. Regarding claim 2, Kojima et al. as modified by Ohshima discloses the claimed invention except that the automobile seat rotates longitudinally instead of laterally. Honda et al., however, discloses a vehicle seat (10) which folds laterally (Fig. 5) and includes a damper (60) that "either assists or provides no resistance to the upward movement of the seat 10 into its stored position. However, when the seat 10 is lowered into its operating position, damper 60 preferably provides adequate resistance in the downward pivoting direction to prevent the jump seat from rotating too quickly as it is being lowered" (Paragraph [0025]). A laterally folding seat allows for an alternate means of moving the seat to a storage position, thus leaving a clear cargo space along the longitudinal length of the vehicle.
27. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the automobile seat damper of Kojima et al. as modified by Ohshima upon a vehicle seat which folds laterally, similar to the seat of Honda et al., such that the one-way clutch means is adapted to transmit the lateral rotation in the lowering direction to said rotator so as to cause said rotator to rotate, whereas in the lateral rotation of the automobile seat in the raising direction, said one-way clutch means is adapted to inhibit the transmission of the lateral rotation in

the raising direction to the rotator. This would be beneficial since a laterally folding seat allows for an alternate means of moving the seat to a storage position, thus leaving a clear cargo space along the longitudinal length of the vehicle, while only engaging the rotator in the lowering direction of rotation prevents the seat from rotating too quickly as the seat is lowered.

28. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al. (US 2002/0109386) in view of Ohshima (US 5,165,507), as applied to claim 23, and further in view of Tsuneki et al. (US 5,257,852).
29. Regarding claim 26, Kojima et al. as modified by Ohshima discloses the claimed invention except that the shaft member (334 of Kojima et al.), although adapted to be rotated together with the rotation of the seat, does not pass through the damper. Tsuneki et al., however, shows that a shaft passing through the damper is an equivalent structure known in the art (See Fig. 2). Therefore, because these two seat dampers were art recognized equivalents at the time the invention was made, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a damper with a shaft member disposed such that it is passed through the damper in stead of the shaft member partially through the damper of Kojima et al.
30. Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al. (US 2002/0109386) in view of Yamamoto et al. (US 5,335,563).
31. Regarding claim 1, Kojima et al. discloses a damper (1, See Fig. 37) for an automobile seat (331) comprising:

- a. A fixing member (307) adapted to be fixed to a chassis on which an automobile seat is rotatably installed (Paragraph [0137], lines 1-10);
 - b. A rotator (304) which is rotatable relative to said fixing member and forms a gap (306) with said fixing member;
 - c. A silicone-based unvulcanized rubber disposed in the gap (Paragraph [0134], 20-21, "...so that the silicone-based unvulcanized rubber 4 can be reliably and easily filled into the gap 306...");
32. Kojima et al. does not expressly disclose a one-way clutch means which, in the rotation of the automobile seat in one direction, is adapted to transmit the rotation in the one direction to said rotator, and which, in the rotation of the automobile seat in another direction, is adapted to inhibit the transmission of the rotation in the other direction to said rotator.
33. Yamamoto et al., however, discloses a one way clutch (9) which is adapted to transmit rotation to a rotator (2) in one direction while not transmitting the rotation to the rotator in an opposite direction (See Col. 8, lines 13-58). This occurs using a coil spring having an attaching end (41) attached to the rotating structure (in this case a parking break lever), wherein the coil spring clamps down on the rotator when rotation occurs in one direction to transmit the rotation, while expanding to release the rotator in the opposite direction to avoid transmitting the rotation.
34. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the vehicle seat damper of Kojima et al. by including a one-way spring clutch wound around the rotator and connected at its connecting

end to the seat, similar to that of Yamamoto et al., which in the rotation of the automobile seat in one direction, is adapted to transmit the rotation in the one direction to said rotator, and which, in the rotation of the automobile seat in another direction, is adapted to inhibit the transmission of the rotation in the other direction to said rotator. Such a modification would be beneficial since it would allow the vehicle seat to be rotated forward (designated by arrow R1 in Fig. 34 of Kojima et al.) against the force of gravity but without resistance from the damper, while also providing resistance to the rotation back to a seated position (designated by arrow R2 in Fig. 34 of Kojima et al.) to avoid slamming of the seat against the vehicle chassis under the force of gravity.

35. Regarding claim 8, Kojima et al. as modified by Yamamoto et al. discloses that said one-way clutch means has a coil spring (9 of Yamamoto et al.) whose one end portion is formed as a free end (Col. 7, lines 31-32 of Yamamoto et al.) and wound around a cylindrical outer peripheral surface of said rotator and whose other end portion is adapted to be attached to an automobile seat (See discussion of claim 1 above.).

Allowable Subject Matter

36. Claims 6, 7, and 11-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
37. The following is a statement of reasons for the indication of allowable subject matter:

38. Regarding claim 6, while Kojima et al. discloses a fixing member comprised of two members (304 and 309) each having hollow cylindrical portions, as well as a rotator with cooperating cylindrical portions, the prior art fails to teach the two members of the fixing members being fittingly secured by a central shaft portion.
39. Regarding claim 11, the prior art fails to show damper having all of the structure of claims 1, 9 and 10, upon which claim 11 is dependent, while also showing a clutch having a hollow cylindrical portion juxtaposed to the inner peripheral hollow cylindrical portion in the axial direction, and especially a coil spring wound around both the outer peripheral surfaces of the inner peripheral hollow cylindrical portion and the hollow cylindrical body.
40. Any unspecified claims are considered allowable subject matter as being dependent from either claim 6 or 11.

Conclusion

41. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Miho et al., Karihara, and Takamatsu disclose structures having similarities to that of applicant's disclosed invention.
42. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick D. Lynch whose telephone number is (571)270-3736. The examiner can normally be reached on Monday-Friday, 7:30 a.m. - 5:00 p.m., EST.
43. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Dunn can be reached on (571) 272-6670. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

44. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David Dunn/
Supervisory Patent Examiner
Art Unit 3636

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07/07/2008